

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

Claim Rejections – 35 U.S.C. § 102

The Office Action rejected claims 1-2, 4-7, 10-11, 20 and 28-29 under 35 U.S.C. 102(b) as being anticipated by Volpin.

Volpin discloses a hammer lock union in which a clamp ring 20 is used to draw a bushing 4 and member 12 over a metal seal ring 10, which may be of any desired type of material. As shown in Fig. 1, the metal seal ring 10 separates the bushing 4 from the head 12.

As understood by those skilled in the art, Volpin discloses a low pressure hammer union that will not provide high pressure seals because the metal seal ring 10 separates opposed ends of the bushing 4 and the member 12 so that the bushing 4 and member 12 do not abut when the clamp ring 20 is in the locked position. Furthermore, as understood by those skilled in the art, the cooperating lugs 15, 25 neither provide enough axial displacement to deform the seal ring 10 or enough holding strength to resist elevated fluid pressures.

Claims 1, 4, 20 and 28 are amended to clarify that the first and subcomponents have respective mating ends that are forced together and abut when securely interconnected by the nut. The metal ring gasket thereby forms a high-pressure metal-to-metal seal between the first and second components when the mating ends abut. This is neither taught nor suggested by Volpin, and the rejection of claims 1-2, 4-7, 10-11, 20 and 28-29 is traversed.

Claim Rejections – 35 U.S.C. § 103

The Office Action rejected claims 3, 12 and 30-31 under 35 U.S.C. 103(a) as being unpatentable over Volpin in view of Parmesan. Parmesan teaches a union with a resilient seal ring 12b that is not liable to be displaced. No combination of Parmesan and Volpin meet the limitations of amended claims 1, 4 and 20 from which claims 3, 12 and 30-31 respectively depend. The rejection of those claims is thereby traversed.

Claims 8-9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Volpin on the grounds that it would have been obvious to make the bevels of the groove

that receives the metal ring gasket 23 degrees from the vertical, plus or minus 1 degree because a change in the shape is simply a design consideration.

Applicant respectfully disagrees. Volpin teaches a different type of hammer union intended for a different purposes that functions in an essentially different way. The metal ring gasket 10 is a heavy metal ring that is not compressed between the bushing 4 and the member 12. The metal ring gasket 10 is received in substantially vertically sided grooves. A completely new design for a threaded union is not a mere design consideration within the skill of the art. The rejection of claims 8-9 is thereby traversed.

The Office Action rejected claims 13-14 under 35 U.S.C. 103(a) as being unpatentable over Volpin in view of Roche.

Roche discloses a union-type coupling for marine drilling riser pipe in which an O-ring 42 provides a fluid seal between components of the union. Roche therefore contributes nothing that would overcome the deficiencies of Volpin or lead a person skilled in the art to the invention claimed in claims 13 and 14. The rejection of those claims is thereby traversed.

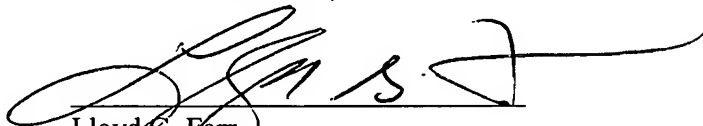
The Office Action rejected claims 15-19, 21-22, 24-27 and 23 as being unpatentable over Volpin on the grounds that it would have been obvious to make the ring of the claimed materials and shape because the selection of material and shape is a design consideration within the skill of the art. For reasons set forth above with reference to claims 8 and 9, the rejection of claims 15-19, 21-22, 24-27 and 23 is traversed.

Claim 28 has been amended to correct a typographical error, specifically to change "components" to "subcomponents."

In view of the amendments to claims 1, 4, 20 and 28 of this application, claims 1-31, which remain pending in this application, are considered to be in a condition for immediate allowance. Favorable reconsideration and early issuance of a Notice of Allowance is requested.

Respectfully submitted,

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& SCARBOROUGH, L.L.P.

A handwritten signature in black ink, appearing to read 'Lloyd G. Farr', is written over a horizontal line.

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